

SYSTEM FOR MEASUREMENT OF METALLIC DEBRIS IN FLUID

A debris sensor arrangement is positioned within an enclosed body of fluid for detecting the presence of metallic debris particles therein. Debris detection involves exposure of cantilever beams to the fluid when magnetized within an electromagnetic field to attract the metallic debris particles thereon and induce vibratory motion thereof at a resonant frequency varied by changes in the density of the debris particles magnetically held thereon. Measurement of the resonance frequency reflecting the density of the debris particles within the fluid being tested thereby monitors the corresponding wear of machinery reflected by the debris density.